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June 20, 2003

TO: Minerals File

FROM: Tom Munson, Senior Reclamation Hydrologist

RE: Site Inspection, Brush Resources, Inc., Topaz Mine, M/023/003, Juab County, Utah

Date of Inspection: June 19, 2003
Time of Inspection: 8:30 a.m. – 10:00 a.m.
Conditions: Sunny, windy
Participants: Tom Munson, DOGM

Purpose of Inspection:

To review the revegetation on dump areas and determine the success of test plots during the drought.

Observations:

Ore Pile area adjacent to the Office

This area was covered with 12 inches of gravel mulch. The following observations were made regarding plants: Grasses – foxtail, crested wheatgrass (very limited amount); Shrubs – fourwing was the most prevalent, shadscale was also present but not very prevalent. Halogeten and cheatgrass were also growing on site. It was noted that there was still evidence of where the sheep's-foot had traveled, and therefore, it appeared to have some impact on some of the success of the revegetation. Being two years into this project and the material being very marginal, at best, I felt that there was some success in this drought especially.

The next area we examined was the top of the Blue Chalk Dump. It was seeded in 1997 and very successful. There was a very diverse community of grasses and shrubs. As the drought has moved forward, we are seeing almost a complete elimination of grass. Very sparse, if any, crested wheatgrass, and one or two indian ricegrass plants were observed. There was shadscale and mainly fourwing, which was by far was the most healthy plant and still doing fairly well on the site. Hopefully, with some rain, the grasses will come back. This area had previously been released.

The next areas visited were eight demonstration plots using gravel mulch, a map will be attached to this inspection report so they can be referenced.

Test plot #1 – six inches of untreated gravel. Found evidence of fourwing, saltbrush, penstemon, crested wheatgrass, ricegrass, yellow sweetclover, forage kochia and squirreltail.

Test plot #2 – three inches of untreated gravel. Appeared to have one of the worst performances of any of the test plots. Penstemon, crested wheatgrass and several yellow sweetclover plants found at this site.

Test plot #3 – three inches of gravel treated with gypsum, super phosphate fertilizer on this plot. This had poor performance. It appeared the gravel itself was a finer texture, which seemed to inhibit growth. The plants observed were: penstemon, crested wheatgrass and fourwing. This plot was also a steeper grade, which may have been a factor.

Test plot #4 – six inches of gravel treated with gypsum and super phosphate. It was not doing very well. There was crested wheatgrass, penstemon, squirreltail, yellow sweetclover, and fourwing.

Test plot #5 – six inches of gravel treated with composted manure and gypsum super phosphate combined. That site had fourwing, crested wheatgrass, penstemon, one lone shadscale plant, mostly halogeten and cheatgrass.

Test plot #6 – three inches of gravel treated with composted manure and gypsum super phosphate. This site had robust fourwing, crested wheatgrass and a few penstemon.

Test plot #7 – six inches of gravel treated with composted manure. This plot has fourwing, crested wheatgrass, penstemon, shadscale, halogeten and cheatgrass.

Test plot #8 – three inches of gravel treated with composted manure. The shrubs were very robust which included fourwing. Grasses were crested wheatgrass and penstemon.

These test plots were established in 1999 in the Rainbow Dump overburden. It is a rhyolite dump and the gravel spread over rhyolite.

Conclusions and Recommendations:

The topography appeared to have an influence on the test plots. Since some of the test plots were steeper than others, it was hard to tell in some respects whether the topography was the biggest influence or the size of the gravel itself, which was varied in size and texture. It was apparent that the manure and gypsum super phosphate were beneficial. The three inches of gravel did as well as the six inches of gravel on the treated plots with manure and super phosphate and on the straight manure plots.

jb
cc: John Wagner, Brush Wellman
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ATTACHMENT

Photographs

M/023/003, Topaz Mine, Brush Resources, Inc.

Inspection Dated: 6/19/2003 ; Report Dated: 6/20/2003

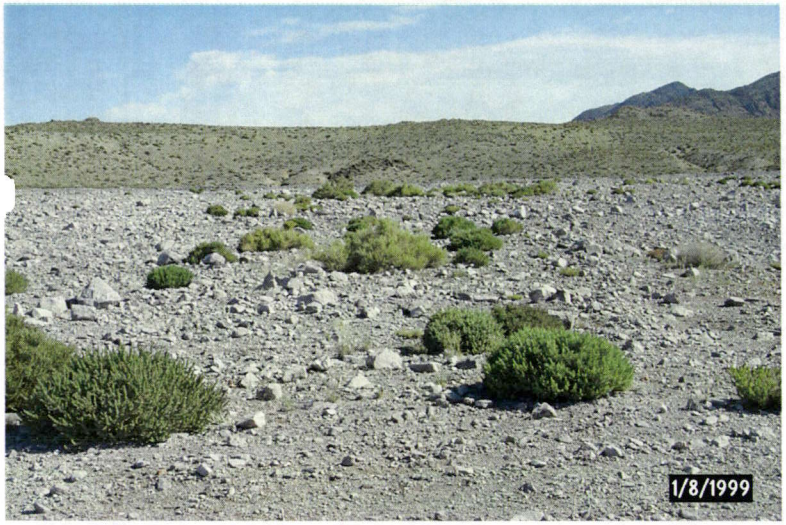

Photo 1 - Gravel Test Plot - No treatment

Photo 2 - Overview Testplots

Photo 3 - shadscale and four wing